Popular beliefs about Antibiotics among Participants in the FoodNet Population-Based Survey: Is There Room for Improvement?

Vanden Eng J, Marcus R, Kazi G, Hadler J, Imhoff B, Cieslak P, Zell E, Deneen V, Vugia D, Gibbs-McCombs K, Trupei M, Besser R, the EIP FoodNet Working Group

Background: Antimicrobial resistance is of increasing national and international concern, Recent antibiotic use is a well documented risk factor for infection or colonization with resistant bacterial pathogens. Antibiotic use can be affected by consumer knowledge, attitude, and practice (KAP) and by physician perceptions of patients KAP .Identifying subgroups with high levels of antibiotic use and which have misconceptions about antibiotic use will assist in targeting interventions. The objective of this analysis is to describe the KAP of antibiotic use among respondents of a national population-based survey.

Methods. In 1998, the Emerging Infections Program's Foodborne Diseases Active Surveillance Network (FoodNet) conducted a population-based survey in California, Connecticut, Georgia, Maryland, Minnesota, New York, and Georgia (total population 29 million). Each month, residents in each site were contacted by telephone using a random digit dialing technique. Using a standardized questionnaire, one respondent >=18 years of age per household was interviewed about KAP of antibiotic use.

Results: Of the 10,780 respondents, 28% believed that taking antibiotics when they had a cold made them better more quickly, 24% believed that taking antibiotics when they had a cold prevented more serious illness, and 45% responded that they expected a prescription for antibiotics when they were ill enough from a cold to seek medical attention. Respondents agreeing with anyone of these statements (53%) were more likely to be male, younger (18-29 years), non-white, not college educated, and earn less than $30,000 per year ($p<0.01$). Fifty-five percent of respondents were not aware of health dangers associated with taking antibiotics. Of those aware of health dangers, 56% mentioned factors related to the emergence of drug resistance as a consequence of antibiotic use. Overall, 12% (n=1255) reported taking antibiotics in the previous 4 weeks; antibiotic use was associated with female gender (13% vs. 10%, $p<0.01$) but not age, race, education, or income. Persons taking antibiotics were slightly more likely to agree with at least one of the above incorrect antibiotic belief statements (58% vs. 53%, $p<0.01$).

Conclusion: Antibiotic use is common and there is substantial room for improvement in KAP: 53% of respondents reported beliefs that may put them at unnecessary risk for infection with resistant bacterial pathogens and over 50% were not aware of the health dangers associated with indiscriminate antibiotic use. Of interest to physicians, fewer than half of patients (45% in this survey) expect to be treated with an antibiotic when they seek care. Identifying and understanding the KAP associated with antibiotic use is a vital component of a national effort to reduce the impact of the emergence of resistant pathogens caused by antibiotic overuse in humans.

Suggested citation:

Vanden Eng J, Marcus R, Kazi G, Hadler J, Imhoff B, Cieslak P, Zell E, Deneen V, Vugia D, Gibbs-McCombs K, Trupei M, Besser R, and the EIP FoodNet Working Group. Popular beliefs about Antibiotics among Participants in the FoodNet Population-Based Survey: Is There Room for Improvement? 2nd International Conference on Emerging Infectious Diseases. Atlanta, GA, July 2000.